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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|------------------------|---------------------|------------------|
| 10/646,253 | 08/22/2003 | Nicolas Pondicq-Cassou | 60246-214 | 9419 |
| 26096 | 7590 | 12/13/2004 | EXAMINER | |
| CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009 | | | JIANG, CHEN WEN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3744 | |

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|-----------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/646,253 | PONDICQ-CASSOU ET AL. |
| | Examiner | Art Unit |
| | Chen-Wen Jiang | 3744 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 October 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) 9-11 and 13 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-8 and 14-20 is/are rejected.
 7) Claim(s) 12 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 18 May 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892). 4) Interview Summary (PTO-413)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. _____.
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.

5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Response to Arguments

1. The amendments and arguments presented by the applicant have been duly noted. In view of such, the previous rejections in the first office action have been withdrawn. However, an update search and further review of the prior art of record has prompted the presentation of new rejections presented below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Mauer (U.S. Patent Number 3,389,576).

Mauer discloses system for controlling refrigerant flow. The system comprises a compressor 10, a condenser 14, an expansion device 30, an evaporator 28 and a refrigerant bypass 38 having valve 39 located between compressor 10 and expansion device 30.

4. Claim 1, rejected under 35 U.S.C. 102(e) as being anticipated by Franck et al. (U.S. 2004/0187514).

Franck et al. disclose a refrigeration system. Referring to Fig.3, the system comprises a compressor 18, a condenser 20, an expansion valve 26, an evaporator 28 and a bypass line between compressor outlet and expansion valve 26 which having a control valve 34.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,2,6,8,14,17,18,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwabara et al. (U.S. 2004/0020230) in view of Franck et al. (U.S. 2004/0187514).

Kuwabara et al. disclose a heat pump apparatus having a refrigerating cycle. Referring to Fig.1, the system comprises a compressor 1, a gas cooler 3, a pressure reducing device 5, a valve 15 and an evaporator 7. The system is designed so that water can be heated by the gas cooler, refrigerant such as CO₂ working in a supercritical area is filled and used at a high-pressure side in the refrigerating cycle. However, Kuwabara et al. do not disclose bypass connected to the inlet of the expansion valve. Franck et al. disclose bypass connected to the inlet of the expansion valve in the same field of endeavor for the purpose of passing refrigerant to defrost. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Kuwabara et al. with a bypass connected to the inlet of the expansion valve in view of Franck et al. so as to pass the refrigerant to defrost. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily

perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

7. Claims 1,2,3,4,5,6,7,14,15,16,18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama et al. (JP 200322391) in view of Franck et al. (U.S. 2004/0187514).

Nakayama et al. disclose a heat pump type hot water heater. Referring to Fig 1, the system comprises a compressor 25, a condenser 26, a hot water tank 3, an expansion valve 27, a valve 39, a bypass line 38, a detecting sensor 48 and an evaporator 28. Water pump 13 is stopped during the defrosting operation. However, Nakayama et al. do not disclose bypass connected to the inlet of the expansion valve. Franck et al. disclose bypass connected to the inlet of the expansion valve in the same field of endeavor for the purpose of passing refrigerant to defrost. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Nakayama et al. with a bypass connected to the inlet of the expansion valve in view of Franck et al. so as to pass the refrigerant to defrost. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

8. Claims 2,3,4,5,6,7,14,15,16,18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franck et al. (U.S. 2004/0187514) in view of Kuroki et al. (U.S. Patent Number 6,418,737).

In regard to claims 3,4,14,15,16 and 18, Franck et al. disclose the invention substantially as claimed. However, Franck et al. do not disclose a detecting sensor. Kuroki et al. disclose a detecting sensor in the same field of endeavor for the purpose of controlling defrost. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Franck et al. with a sensor in view of Kuroki et al. so as to control defrost operation.

In regard to claim 2, Kuroki et al. disclose the refrigerant perform heat exchange with water.

In regard to claims 5,7 and 19, Franck et al. disclose the valve 34 is closed when it's not defrosting.

In regard to claim 6, Kuroki et al. disclose a pump 3 in the heat rejection circuit.

Allowable Subject Matter

9. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (571) 272-4809. The examiner can normally be reached on Tuesday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang
Primary Examiner

A handwritten signature in black ink, appearing to read "C. W. Jiang".